

SCHOOL LIFE

OFFICIAL JOURNAL OF THE ★ ★ ★ ★ ★
OFFICE OF EDUCATION

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THE UNIVERSITY
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November 1959

THE GAP IN EDUCATION FOR WORLD CITIZENSHIP

WHILE intensifying your training in the sciences, I infer, you are seeing to it that the liberal arts in general, and international relations in particular, are not neglected. The big question is whether your institutions and comparable institutions elsewhere in this Nation are recognizing this rapidly enough and wisely enough.

I recently participated in directing an elaborate study of opinions in some 12 American communities. We found that, within every community, there is a relatively small number of citizens who set the tone and attitude of the community in the whole field of public affairs—and particularly in international affairs. These community leaders are important channels for communication of information, ideas, and points of view into the community, within it, and from it * * *.

Of the entire group, a very high percentage—much more than a majority—were leaders in business and the professions. An interesting and curious fact emerged from the study. This was

that when certain individuals cross an invisible line and become recognized as leaders in their own profession, their advice begins to be taken seriously in the whole field of public affairs and international affairs—even though they may not be qualified in these areas. Another significant fact emerged when we surveyed those who have attained recognition as such leaders. We found that approximately 83 percent had attended college and 54 percent had taken postgraduate training, usually professional training.

This means to me that those we are training for positions of leadership in their particular profession will also have leadership, like it or not, with respect to the attitudes of their communities on the whole field of international affairs. It means, in brief, that we are flirting with real trouble if we don't see to it that the engineer, the scientist, the doctor, or the agricultural economist has some basic comprehension of the field of international relations.

From an address by EDWARD W. BARRETT, Dean, Graduate School of Journalism, Columbia University, at Oklahoma City, January 14, 1959, as a part of a symposium sponsored by Frontiers of Science Foundation of Oklahoma, Inc., the Oklahoma Regents of Higher Education, and the State Board of Education. Reprinted with permission of Frontiers of Science.

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE • ARTHUR S. FLEMMING, *Secretary*

OFFICE OF EDUCATION . . . LAWRENCE G. DERTHICK, *Commissioner*

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Brief EDUCATION AND GOVERNMENT Reports

Fellowships for teachers

COMMISSIONER of Education Lawrence G. Derthick has announced the allocation of 150 graduate fellowships to the 50 State educational agencies and 14 universities for the professional preparation of leaders in the education of mentally retarded children.

The fellowships were made possible under a \$1 million appropriation by Congress in July 1959 to carry out the objectives of Public Law 85-926, to encourage expansion of teaching in the education of mentally retarded children through grants to institutions of higher learning and to State educational agencies, signed by President Eisenhower on September 6, 1958.

Of the 150 fellowships, 2 were allocated to each of the 50 State educational agencies for graduate fellowships for promising persons engaged in preparing for supervision of teachers of mentally retarded children. The other 50 fellowships were allocated to 14 institutions of higher education to prepare professional staff to conduct the training of future teachers of such children. Four of the fellowships went to each of the following institutions: Colorado State College; University of Illinois; Wayne State University; University of Minnesota; Teachers College, Columbia University; Syracuse University; the Ohio State University; University of Pittsburgh; Pennsylvania State University; George Peabody College for Teachers; and the University of Wisconsin.

Two fellowships went to San Fran-

cisco State College, the University of Georgia, and Newark State College (New Jersey).

Each fellow will receive \$2,000 for a first year of graduate study, \$2,400 for a second year, and \$2,800 for a third year, together with \$400 each year for each dependent. For each fellow the institution which he is attending will receive a *provisional* supporting grant of \$2,500 a year to be applied to the cost of training him.

The following persons served as consultants to Commissioner Derthick in reviewing the applications for fellowships from institutions:

FRANCIS W. DOYLE, deputy superintendent and chief, Division of Special Schools and Services, California State Department of Education, Sacramento, Calif., *chairman*.

CLAIR W. BURGNER, chairman, Education Committee of the National Association for Retarded Children, San Diego, Calif.

RAY GRAHAM, director, Division of Special Education, State Department of Public Instruction, Springfield, Ill.

SAMUEL A. KIRK, director, Institute of Research for Exceptional Children, University of Illinois, Urbana, Ill.

JOHN J. LEE, chairman, Department of Special Education and Vocational Rehabilitation, Wayne State University, Detroit, Mich.

ELIZABETH M. KELLY, assistant superintendent in charge of Special Services, City Public Schools, Newark, N.J.

CHRIS J. DE PROSPO, assistant pro-

fessor, City College, New York, N.Y.
H. ARNOLD PERRY, dean of education, University of North Carolina, Chapel Hill, N.C.

GERTRUDE BARBER, assistant superintendent, Department of Special Education, City School District, Erie, Pa.

School bond sales drop

AN "unfortunate downward trend" in the sale of school bonds, now apparent across the United States, indicates reduced construction of classrooms in the months ahead, Secretary Flemming told a recent press conference. At the same time the classroom shortage continues to be high, and public school enrollments continue to increase.

School bond sales in the 12-month period ending September 1959 totaled \$1.9 billion, 20 percent less than the \$2.4 billion in the preceding 12-month period. Since school districts assume long-term debts for 85 percent of the funds expended for school construction, the decline in bond sales inevitably means reduced expenditure for school construction.

The slowing down of school construction is confirmed by other statistics. The value of State and local contracts awarded for public elementary, secondary, and higher education was 11 percent less than the total in the corresponding period of 1958. Furthermore construction completed in the first 8 months of 1959 for public and private education was 4 percent less than in the corresponding period of 1958.

An Office of Education circular,

now in press, gives detail on the value of school bond sales, interest rates, and size of bond issue. *Statistics of Bonds Sold for School Purposes, October 1953-June 1959*, OE-22001, by Stanley V. Smith and E. Joan McMurray, analytic statisticians, under the general direction of Louis H. Conger, Jr., chief, Reference, Estimates, and Projections Section, Educational Statistics Branch, will be listed in *School Life* when it is available.

The university and world affairs

A NATIONAL committee has been created to study the participation of American universities in international education, research, and technical assistance. It will be supported by the Ford Foundation, but will be independent, and its recommendations will be its own, Henry Heald, president of the Foundation, said in announcing its establishment.

The new group, known as the Committee on the University and World Affairs, is made up of leaders from the universities, Government, business, and the foundations. They are:

J. L. MORRILL, president, University of Minnesota, chairman.

HAROLD BOESCHENSTEIN, president, Owens-Corning Fiberglas Corp.

HARVIE BRANSCOMB, chancellor, Vanderbilt University.

ARTHUR S. FLEMMING, Secretary of Health, Education, and Welfare.

J. W. FULBRIGHT, chairman, Senate Foreign Relations Committee.

JOHN W. GARDNER, president, the Carnegie Corporation of New York.

FRANKLIN D. MURPHY, chancellor, University of Kansas.

PHILIP D. REED, chairman of the Finance Committee, General Electric Co.

DEAN RUSK, president, the Rockefeller Foundation.

Ralph J. Bunche, Under Secretary for Special Political Affairs, United Nations, will serve as consultant.

The Committee will examine such university activities as training and research programs dealing with foreign

areas, assistance to foreign countries in developing educational and research institutions, and cooperation in Government programs of technical assistance. Its primary objective will be to make policy recommendations to both the universities and the Government for more effective participation by American educational institutions in international affairs, Mr. Heald said.

He pointed out that American colleges and universities are already rising to meet the demand. Statistics compiled by the Institute of International Education show that 47,245 students from 131 countries studied on American campuses in 1958-59; 1,937 foreign professors, lecturers, and research scholars were on faculties of 288 American colleges and universities; and 1,842 faculty members from 367 American colleges and universities were in teaching or research in 82 foreign countries.

The Committee expects to make a report of its study in 1960, which, Mr. Heald says, "will not only provide guidelines for our universities and Government but will also seek to clarify the stakes of the American people as a whole in international education and cooperation. Hopefully, it can lift the unrelated efforts of individual colleges and universities to a new and higher level of activity in accordance with a common national purpose."

Speech and hearing index

GALLAUDET College and the American Speech & Hearing Association have established a National Index on Deafness, Speech, and Hearing that combines the indexing and abstracting functions of Gallaudet's Central Index of Research on the Deaf and the association's projected indexing and abstracting functions. A committee composed of representatives of the college and the association will formulate general policies for the National Index. Gallaudet College is the world's only institution of higher education especially for deaf students. It operates

under the Department of Health, Education, and Welfare.

The Index will abstract and index all professional literature on deafness, speech, and hearing, both current and past, and will present this information in a regular professional publication, beginning in 1960, for the use of all persons concerned with the problems of deafness, speech, and hearing. It will be partly financed by a grant from the Office of Vocational Rehabilitation, Department of Health, Education, and Welfare.

Additional information on the Index may be obtained by writing to Dr. Stephen P. Quigley, Director, National Index on Deafness, Speech and Hearing, Gallaudet College, Washington 2, D.C.

Awards for science students

TWO young science students have received awards for Science Fair projects of special interest to the military. The two boys—Joie Pierce Jones, 18, of Abilene High School, Abilene, Tex., and Robert E. Fisher, 15, of Forest Hills High School, Forest Hills, N.Y.—were winners in 2 of the 168 regional Science Fair competitions conducted in the past year by Science Services, Inc., of Washington, D.C. Engraved plaques and wristwatches were presented to them at the Educators' Luncheon, September 4, at Miami Beach, Fla., during the Airpower Panorama and Air Force Association Convention.

The luncheon was attended by 100 key educators, including chief State school officers, large city school superintendents, and representatives of State education associations, State education journals, teachers colleges, PTA's, the U.S. Office of Education, and other professional organizations.

Joie Pierce Jones' project was an experiment in the design and application of solid propellant rockets to radiation studies of the upper atmosphere, and Robert E. Fisher's was to determine by a spectroteloscope the elements found in the sun and moon and the compositions of different elements of gases.

Knowledge Should Be Universal



*On September 16, in the White House Rose Garden,
President Eisenhower greeted more than 500 foreign teachers and
school administrators who are in this country as participants in
the International Teacher Development Program and the
Technical Assistance Training Program in education*

LADIES and Gentlemen: First of all, welcome to Washington, our Nation's Capital. Now ordinarily, with such a group like this meeting in the Rose Garden, I should content myself with a few words of greeting and a few off-the-cuff remarks. But because of the importance of this group—representing as you do the teaching profession in so many different countries, and because of your tremendous interest in promoting understanding by coming to this country to see what you can bring to us and what you can take away from here—I decided to put my few simple thoughts, such as they are, on paper. So you will this morning get from me a bit of a precedent. I think never before in this Rose Garden have I read a speech—which is probably self-flattery. I don't mean to call it a speech; it's just an expression of some simple thoughts.

DR. HAUCK, TEACHERS, AND SCHOOL ADMINISTRATORS:

I am happy to join with Dr. Hauck and others in his group in extending to you this welcome to our country. I hope in the coming months you will all have abundant opportunity to meet and talk with Americans in every walk of life. We, of course, want to show you our schools and colleges and our universities; our cultural institutions, farms, factories, and playgrounds. But most of all we want you to come to know our people; and what they think, and how they live, and what their aspirations for the future are. And I speak for all Americans when I say that we are tremendously interested in you and your ideas. We want to know better what you think, how you live, and to what you aspire.

A little more than 30 years ago, I made my first transatlantic crossing—it took 7 days. My latest crossing—early this month—took a little less than 7 hours. In the three decades between these trips, the world has experienced awesome changes. One of these is that 25 nations, with a population of nearly 1 billion, have achieved

political independence. Each is struggling for stability, for a respected place in the family of nations, and for advancement in the well-being of its people. But to me the greatest change of all is the development of an exacting interdependence between free nations—an interdependence that involves the oldest and the youngest nations, the largest and the smallest, the most prosperous and the least developed of nations.

This interdependence calls for new thinking, new institutions, new vision. Above all, it calls for greater understanding among peoples—the genuine understanding of truth, which can dispel unfounded fears and suspicions, bars to true and lasting peace. People of good will everywhere have a tremendous job of communicating such understanding—and little enough time to do it. We need to pursue every possible avenue that can bring people together as friends and coworkers seeking solutions to their common problems.

As teachers and school administrators you enjoy an extraordinary advantage in this great task. You are the multipliers of knowledge; you serve to develop and disseminate thoughts and ideas, and to stimulate critical, creative thinking and understanding in others. The educational institutions in which you work are the seedbeds of learning—and not merely of your own countries, but of all mankind.

Knowledge is or should be universal; it was meant to be shared; and it has the peculiar quality about it that, when its parts are brought together, the result is a multiplication, rather than a mere addition of those values.

One of the powerful effects of teacher exchange is that the benefits are multiplied a thousandfold. A good teacher, given the opportunity to comprehend other cultures, is not just a transmitter of important facts about the language, economy, politics, science of the country he has visited. He becomes far more—a sort of ambassador at large, who brings to each one with whom he comes in

contact greater depth of understanding and greater toleration.

All of us surely agree that the exchange of students is valuable. Indeed, I would like to see a substantial increase in the almost 50,000 foreign students now studying in the United States. But I emphasize that through teacher exchange we can open intellectual windows faster and in greater number, and thus more rapidly progress toward the greater understanding so desperately needed by our quarrelsome and shrinking world. A world of understanding will be a world of true freedom. We shall not

be serving mankind well if we become obsessed with just the business of putting new satellites into orbit—so obsessed that we overlook the fact that we have some real problems left right here on earth.

We need to put new ideas—and more of them—into orbit. And we must use every resource at our command to see that people everywhere achieve greater understanding of each other before it is too late.

In this respect you of the teaching profession compose one of our most precious resources. As always with sound and enthusiastic teaching, we

do not look for spectacular breakthroughs. There are no easy solutions for the complexities that surround us. I confidently expect the teaching profession to write a new and one of the finest chapters in human history by developing the priceless commodity of genuine understanding. Only thus shall we ever achieve the kind of world we want.

I hope all of you will take home much of America in your minds and in your hearts. We certainly expect to get much from you.

Thank you very much. Goodbye.

Teacher Exchange and Training Programs Show Increases for 1959-60

By Thomas E. Cotner

Director, Educational Exchange and Training Branch, Division of International Education

MORE than 2,000 teachers and school administrators from 75 countries, dependencies, and mandated areas will participate in three international exchange and training programs in the academic year 1959-60, a marked increase over last year. All three programs are administered by the Educational Exchange and Training Branch, Division of International Education. Exchange and Teacher Development Programs are administered for the International Educational Exchange Service and the Technical Assistance Training Program in educational fields for the International Cooperation Administration, both of the Department of State.

Teacher Exchange

Approximately 600 educators from 45 countries and dependencies will take part in the teacher exchange pro-

gram this year. Exchange activities are of four types: Interchange of positions, one-way assignments, history and language seminars, and seminars for school administrators.

An interchange of positions is carried on with 15 countries, and about 175 pairs of teachers exchange jobs and sometimes living accommodations. Another 150 American teachers will go on one-way assignments to more than 30 countries, with the majority teaching English as a foreign language. About 110 teachers attend special summer seminars abroad in world or modern European history and in the principal foreign language fields. The history seminar is held at the Institute of European Studies in Turin, Italy. The Spanish language seminar is located in Colombia, part of the time at the University of Cartagena and part at the Univer-

sity of the Andes in Bogotá. The French seminar is held at the Sorbonne in Paris, but teachers spend some time in one of the provincial universities in Pau, Ustaritz, or Nice. German teachers go to Germany for a program arranged by the Goethe-Institut near Munich, with travel to many cities in the country. Latin teachers attend the American Academy in Rome, and, every fourth year, teachers of Italian also attend a special seminar in Italy. The fourth project involves American school administrators who will attend one of two seminars in Europe in early 1960. Twenty will go to one scheduled for Finland and France, and another group of 20 will go to Norway and Italy for the purpose of comparing educational systems at all levels.

About 5,500 teachers have participated in the program since its incep-

tion in 1946. The growth of the Teacher Exchange Program during the past 5 years is reflected in the table below.

Teacher Development Program

Six-month grants have been awarded under the International Teacher Development Program, as provided under the Fulbright and Smith-Mundt Acts, to 514 teachers and school administrators from 67 countries, dependencies, and mandated areas during 1959-60. This training program began in 1944 with only the Latin American countries participating. Beginning in 1948, it became worldwide in scope, including virtually all of the free nations. Since its inception, over 3,500 educators from other countries have taken part in this program.

Grants are offered in elementary, secondary, and vocational education, school administration and supervision, American civilization studies, and English as a second language. More specialized fields, such as education of the blind, deaf, and mentally retarded, and tests and measurements are included. Approximately a dozen universities and colleges serve as primary training centers each year. For 1959-60, the following institutions have groups of teachers or school administrators as indicated:

American Civilization: University of Colorado; University of Wyoming.

Science—Secondary: Oregon State College.

School Administration—Secondary: University of Southern California.

General—Secondary: Arizona State University; University of Wisconsin.

General—Elementary: Kent State University; Northwestern University.

English as a second language: University of Michigan; University of Texas; San Francisco State College.

Vocational Education: Southern Illinois University.

In addition, two special workshops are held at the University of Puerto

Rico during the fall and winter for Latin American educators whose knowledge of English is insufficient to take part in the regular program. The workshops are conducted in Spanish and include the fields of elementary, secondary, and vocational education. About 90 teachers will take part in these seminars this year.

Grantees in the regular program have a period of 3 months to one semester on the university campus. They attend special seminars, audit two or three courses, and take part in many extracurricular activities. During Christmas, they travel extensively, and in January most of them are assigned by State departments of education to observe schools in different States. There are many opportunities for them to participate in all types of community activities and to speak about their countries to many groups.

This varied and flexible program has met with great success. The growth in it over the past few years is readily seen in the increase in grantees shown in the table.

Teacher exchange and training programs, 1955-56 to 1959-60

Year	Teacher exchange	Teacher development	Technical assistance
1955-56....	446	265	598
1956-57....	502	303	542
1957-58....	515	359	644
1958-59....	566	420	647
1959-60....	589	514	¹ 850

¹ Estimated.

Technical Assistance Training

The third project administered by the Office of Education relates to the Technical Assistance Program of ICA for the less well-developed countries of the world. Between 850 and 900 participants are expected this year from more than 40 countries. The majority come for training in vocational or technical education. However, many are elementary and

secondary schoolteachers and university faculty members in other fields. As to level, the participants range from beginning teachers to ministry of education personnel, occasionally including the minister.

The average period of training is an academic year. Some participants, however, receive extensions in order to complete degrees or to engage in further practical training. Occasionally high level teams come for brief intensive observation programs, and sometimes projects are conducted entirely in a foreign language when the participants do not have an adequate command of English.

The Far East has the largest representation, with the Near East and Africa, and the Latin American area following in that order. Europe, of course, has only a few in certain specialized fields. Individual countries with the largest numbers of participants include Thailand, the Philippines, and Indonesia. Large "immediate impact" programs for Iraq and Egypt will bring more than 100 participants in educational fields from each of those countries this year.

The number of participants programmed by the Educational Exchange and Training Branch for ICA is shown in the table.

Other Services

In addition to serving the almost 2,000 American educators teaching abroad and the teachers and school administrators coming to this country to teach or for training, as described in the three programs discussed, the Office assists and plans programs for some 300 non-U.S. Government sponsored educators from overseas. Many of them are referred to the Office by their embassies and usually are sponsored by their own governments or are here on their own funds.

The academic year, 1959-60, therefore, brings the largest groups of educators to this country that we have ever had. It also brings the greatest opportunity for the Office staff and American educators throughout the country to be of service to them.

A 3-man study team of the U.S. Office of Education arrived in Moscow on May 9, 1959, and spent 28 days touring the U.S.S.R., visiting schools in Moscow, Kiev, Tbilisi (near Turkish border), Leningrad, and back to Moscow. At the end of the Soviet tour the team spent 1 week visiting schools in Warsaw and Krakow, Poland. Members of the team were William K. Medlin, specialist for Eastern Europe; Marshall L. Schmitt, specialist for Industrial Arts; and Dr. Lindquist.



CLARENCE B. LINDQUIST,
Chief for Natural Sciences
and Mathematics,
Division of
Higher Education

SCIENCE and MATHEMATICS EDUCATION in the U.S.S.R. TODAY

EVER since the Soviet Union launched its first sputnik on October 4, 1957, interest in Soviet education has been growing in this country. Many persons have been wondering whether this notable achievement and other recent scientific accomplishments in the Soviet Union are the consequences of an excellent system of education.

In an effort to get the facts, a number of research studies have recently been made on the organization of Soviet education, the curriculum, and subject-matter content as revealed through examination of Soviet textbooks. Additional information has been obtained by educators who have recently visited the Soviet Union under the Cultural Exchange Agreement between our Government and that of the U.S.S.R. signed in January 1958.

During my recent 28-day study of Soviet schools and pedagogical institutes I sought more detailed and qualitative answers to such questions as:

What science and mathematics are currently being taught? What new changes are being contemplated, if any?

What methods are being used in the teaching of science and mathematics?

What is the status of science laboratories and equipment?

How are science and mathematics teachers trained?

This article briefly summarizes my

observations and the answers I got to some of my questions during visits to 14 general educational schools, 7 pedagogical institutions, and 3 pedagogical research institutes in Moscow, Kiev, Tbilisi, and Leningrad.¹

Types of Secondary Education

When a pupil completes the first required 7 (8) grades, he has a number of choices: (1) He may enter a complete secondary school, which is most nearly equivalent to the college preparatory program in our high schools; (2) he may go to a vocational school which corresponds roughly to our vocational school or to a special school or technicum, which is a semiprofessional school for training technicians and specialists of various kinds; or (3) he may go to work. If a student chooses to go to work, he is encouraged to continue his education through evening or correspondence study. In 1957-58 there were 5.5 million pupils enrolled in the upper three grades of the complete secondary school as compared to 3.3 million in the vocational schools and technicums.

The foregoing description of the organization of the Soviet system of education is presented so that the reader may understand the programs that are offered and the numbers

that enter them. The figures indicate that most Soviet pupils who go beyond grades 7 or 8 (and in the schools I visited I was told that most of them do) enter the academic program of the complete secondary school.

Curriculum

The curriculum of the schools is prescribed for all grade levels and is essentially uniform throughout the U.S.S.R. Science and mathematics play significant roles in the total instructional pattern, occupying 31.4 percent of the student's time in the complete 10-year school. Science and mathematics are also taught in the vocational schools and the technicums, but not as deeply or as far as in the complete 10-year school.

The percentage of time devoted to different areas of study in the complete 10-year school follows:

	Percent
Humanities and social studies.....	48.0
Science and mathematics.....	31.4
Polytechnic education.....	13.2
Physical education.....	7.4

Mathematics is regarded by Soviet educators as a very important subject. Of the total of 10,617 hours of instruction in the complete 10-year school, 2,023 hours, or 19.1 percent of the total time, is devoted to mathematics. Only Russian language and literature with 2,856 hours exceed the time given to mathematics instruction. Mathematics is taught 6 hours a week in every grade except the last half

¹ A complete report on the findings of the three-man team is being prepared for publication as an Office of Education bulletin.

of grade 10, in which it is taught 5 hours a week.

Unlike schools in the United States, Soviet schools do not offer courses in chemistry, physics, and biology integrated into 1 year each. Instead they spread instruction in these subjects out over a number of years, beginning with biology in grade 4, physics in grade 6, and chemistry in grade 7. The number of hours devoted to these subjects at the various grade levels is shown in table 1. It is true, however, that much of the material taught in these courses is taught in U.S. schools at equivalent grade levels under the title of science or general science.

Instructional Methods

The classes I observed were conducted almost exclusively by the lecture-recitation method. The teacher discussed the lesson for the day and then called on the students to recite, work out problems at the board in the front of the class, or perform a demonstration. At the conclusion of his recitation or performance, the pupil received a mark which was recorded in the teacher's record book and in the pupil's notebook as well. The marking system used throughout the U.S.S.R. is 5 for excellent, 4 for good, 3 for average, 2 for barely passing, and 1 for failure.

Occasionally, written quizzes covering a few problems or questions are given to the entire class. Since in no classes or laboratories are there individual seats, the pupils sit in pairs

and in some instances three at a desk, and the teacher gives out parallel but different sets of test questions. All work, even computations and sketches, is done in pen and ink by the pupils. Most of the work I saw was very neat, but sometimes, if errors were made, it was messy since the errors could not easily be erased. The purpose of requiring pen and ink, I was told, was to inculcate on the pupils habits of neatness in their schoolwork.

Equipment and Facilities

The science classes almost always meet in combination lecture-laboratory rooms. Before a laboratory period, which always runs consecutively for 2 hours, the equipment is placed on each pupil's desk by the teacher and his assistant. Almost every science teacher has an assistant whose duty is to assist with laboratory instruction and the care of equipment. The assistant is usually a person who is planning to become a full-fledged teacher and who is currently enrolled in a pedagogical institute in evening study or by correspondence.

Each desk, which is occupied by two or three pupils, is provided with electrical and gas outlets. In the rural areas, spirit lamps are used rather than bunsen burners.

Adjoining each lecture-laboratory room there is a preparation and stockroom for the teacher and his assistant. At the schools I visited, such rooms seemed to be amply stocked

with the equipment and materials needed by pupils. For example, I noticed that there were 25 little bottles of the reagent to be used, or 25 microscopes, or 25 voltmeters. Thus, each pupil in the class (there are no science classes in the upper grades with more than 25 or 30 pupils) was provided with the equipment and materials necessary to perform the experiment. In the chemistry laboratories I visited, none of the pupils wore protective rubber aprons.

The schools appear to have an ample supply of audiovisual aids—charts, models, projectors, and specimens. In slide rule instruction, for example, which is part of the regular curriculum in the complete 10-year school, each pupil borrows a school-owned slide rule on which to learn and practice. Thus, the schools that I visited appeared to have the necessary tools to work with to do a good job of imparting instruction. Soviet educators consider tools as much more important for them at this time than shiny new buildings. At the pedagogical research institutes on methods of instruction, some research specialists have specific assignments to design and improve teaching aids.

Textbooks

Textbooks at all grade levels in Soviet schools are purchased by the pupils. Since they are published by the Government in great quantities and are printed on low-quality paper judged by American textbook standards, they are cheap. Many textbooks are written by Soviet educators who have won out in competition with others. In addition to prestige, considerable financial remuneration accrues to the successful author. Most Soviet science and mathematics classes use separate textbooks for theory, problems, and exercises.

Enrichment Program

Since Soviet schools follow the uniform prescribed curriculum, they make no provision for homogeneous grouping of pupils according to ability level. Pupils with special interest and ability in a subject may follow

Table 1.—Science and mathematics curriculum in the complete 10-year school

[2 figures for 1 grade in a column indicate the number of hours for each semester]

Name of subject	Number of hours a week in grades										Total hours	
	I	II	III	IV	V	VI	VII	VIII	IX	X	By the week	By the year
Mathematics.....	6	6	6	6	6	6	6	6	6	6/5	59.5	2,023
Biology.....				2	2	2	3	2	1	....	12	408
Physics.....						2	3	3	4/3	4	15.5	527
Astronomy.....										1	1	34
Chemistry.....							2	2	2	4	10	340

their bents in activities called "circles," offered in after school hours. Most teachers supervise "circle activity" in their subjects.

It is primarily through such circle programs that the pupil's curriculum is enriched. In mathematics circles, for example, pupils may work on special problems or study additional topics. In chemistry circles they may perform experiments in addition to those assigned in the classroom.

Theory and Practical Work

With the recent emphasis on polytechnic and production education, Soviet educators are attempting to establish a closer link between theory and practical work. In line with the recent Government decree to this effect, the director of each school I visited stated that this goal was a chief objective of his school. (For further information on this point see Dr. Schmitt's article, p. 13.)

I found it interesting to observe that in the U.S.S.R. the current emphasis is on applied technology, whereas leading American scientists are advocating that science curriculums place more emphasis on pure, basic science because they believe that with the proper understanding of fundamental principles pupils can easily learn the applications in specific situations later in life as they encounter them.

Soviet Research Efforts

Soviet educators do not believe that their system is perfect and that they have no educational problems. On the contrary, they are continuously doing a great amount of research to discover weaknesses and bring about improvements consonant, of course, with their national objectives. There is a trained corps of research specialists whose duties are to study the various aspects of their education and to make recommendations. In our country such research is carried out for the most part by professors in universities and colleges in addition to their regular instructional duties. In the U.S.S.R. there are large numbers of specialists who have this work as their full-time job. During our visit we had an opportunity to spend several hours with some of these research workers to learn what they were doing. According to them their problems are mainly twofold:

1. How to teach basic science and mathematics subjects to pupils before their periods of polytechnic training and work experience in which they can be taught to apply subject matter.
2. How to introduce into the curriculum the new concepts which are being developed as a result of recent advancements in science and technology.

For a comprehensive discussion of educational research in the U.S.S.R., see "Soviet Educational Research: Its Organization and Tasks," by William K. Medlin, *School Life*, October 1959, p. 18.

Anticipated Developments

What new developments are expected in the coming years in science and mathematics, as foreseen by Soviet research specialists? As a result of the recent Government decree on polytechnic education and the establishment of the new 11-year program of education in the schools, reforms throughout the school curriculum are being planned. During the 1959-60 academic year the new curriculums in grades 1 through 4 are being introduced in all schools. According to their plans, a new curriculum for other grades will be added progressively until the entire new curriculum will be in operation when all the schools are on the 11-year basis between 1963 and 1965. Experimental schools attached to the various research institutes are right now trying out the new proposed curriculums.

We were told that in mathematics from now on decimals would be taught before fractions. There will be less emphasis on "formalism" and more on understanding, and less work



Second-year physics laboratory in the Pedagogical Institute named after Lenin, in Moscow

with calculation, such as logarithmic computations. Trigonometry will be abandoned as a separate subject, but most topics will be retained and will be taught in the geometry sequence. Some topics in algebra, such as the binomial theorem, will be dropped, and, in place of topics discontinued, more attention will be given to the notion of functional dependence. In the final months of the mathematics curriculum in the 11th grade, the beginning elements of analytic geometry and differential calculus, such as derivatives, slopes of curves, maxima and minima, are planned to be introduced.

In chemistry there will be increased emphasis on production processes used in industry; topics to be studied include metallurgy, extraction and refinement of fuels and gases, resins and synthetic fibers. In physics the following topics will be studied: Theory of solid bodies, silicon conductors, magnetic properties of bodies, fundamentals of electronics, and theory of atomic structure. In biology there will be a more intensive study of the physiology of plants.

Interest in American Education

Soviet research workers are very much interested in educational developments and problems in other countries. One Soviet research worker in school physics said he had read that physics was not taught in some U.S. high schools, and he wondered whether the statement was true, especially in view of the fact that study of physics was required of all Soviet pupils. I explained to him that while it was true that a very few of our small high schools were occasionally unable to offer physics, usually because of the lack of qualified teachers, such situations affected only a small proportion of our high school population.

The science and mathematics instruction that I observed appeared to be similar to that which was given in most American high schools until recent developments led many schools to revise their curriculums and introduce modern concepts, especially in mathematics. I could not detect any



In the U.S.S.R. many girls specialize in physics and other sciences

evidence of an effort in a similar direction or on a comparable scale in the U.S.S.R. One Soviet research worker, not a mathematician, however, showed me a copy that he had received of a *Program for College Preparatory Mathematics*, but he added that in his opinion, many of the topics contained in this report more properly belonged to the higher education level.² We in the United States may feel quite certain, however, that cognizant Soviet educators will give careful attention to curriculum developments taking place here.

Training of Teachers

Teachers for the elementary grades 1 through 4 have been trained for the most part at pedagogical schools, which are 2-year schools and which are similar to our normal schools of a few years back. Under a new program being inaugurated now, the pedagogical schools are gradually being eliminated, and in the future teachers in these grades will be trained under a 4-year curriculum.

Teachers for secondary grades 5 through 11 are trained at pedagogical institutes with a 5-year curriculum. Prior to 1957 this program was 4

years in length. As in the pedagogical schools, the curriculum in the pedagogical institutes is substantially uniform throughout the U.S.S.R. If the student pursues his teacher training during the daytime program, he will acquire two teaching specialties; for example, mathematics and physics; physics and the fundamentals of production; biology, chemistry, and the fundamentals of agriculture; geography and biology. If the student is studying to become a teacher by evening attendance or by correspondence study, he will receive only one teaching specialty. That is the only principal difference between the regular program and evening and correspondence study. I was told at some pedagogical institutes that almost as many students were studying in the evening program or by correspondence as in the regular day program.

Most of the students preparing to become teachers are women. The percentage was about 80 at the peda-

² Commission on Mathematics, College Entrance Examination Board, *Program for College Preparatory Mathematics*, the Board, New York, N.Y., 1959, 63 p.

gological institutes I visited, even in the fields of science and mathematics which are not quite so popular among the young women planning to become teachers in our country. As in all forms of higher education, almost all students in the pedagogical institutes receive stipends to enable them to continue their education.

The curriculum for prospective teachers has a heavy concentration in subject-matter content in the fields of their specialties. For example, in the mathematics and physics curriculum, 2,508 hours out of a total of 4,818 hours, or about 52 percent of the time, is devoted to the study of advanced mathematics and physics. A total of 276 hours, or about 6 percent, is devoted to general pedagogy and psychology, and 404 hours, or about 8 percent, to special-methods courses in teaching mathematics and physics. Not accounted for in these calculations is the time that the prospective teacher must spend in observation and practice teaching under supervision—6 weeks in semester 7 and 10 weeks in semesters 9 and 10.

For the teacher in service there are inservice institutes during the regular school year as well as summer programs. Science and mathematics teachers as well as all other teachers are expected, and in effect are strongly urged, to avail themselves of this type of training in order that they may keep abreast of latest developments in subject-matter content as well as pedagogy.

Summary and Conclusion

Science and mathematics are regarded as very important subjects in the educational training of all Soviet pupils. The impression that I gained during my monthlong visit to the U.S.S.R. is that Soviet pupils taking the complete 10-year school program receive a sound basic education in science and mathematics similar to that pupils in our American high schools who take a college preparatory curriculum in science and mathematics receive. The main difference is that all Soviet pupils in 10-year schools receive this training whereas

in our high schools only those who elect it receive it.

Furthermore, the schools I visited appeared to have adequate facilities and equipment to do a good job of science and mathematics instruction. The teachers seemed well trained and dedicated to their work. Training

requirements for new teachers have been increased in recent years, and inservice teachers are under constant pressure to upgrade themselves. A vigorous program of research in subject matter and pedagogy is being continuously carried out by a trained corps of research specialists.

STATE SCHOOL SYSTEMS, 1957-58

Advance Information

A PRELIMINARY report by the Office of Education on the statistics of State school systems for 1957-58, giving estimated totals for the Nation based on returns from three-fourths of the States, indicates that education in the United States is still growing at a rapid rate. All along the line—in numbers of pupils, high school graduates, and instructional staff, in income and expenditures—the figures were higher than those reported for any earlier year by the Office.

When complete returns are in from all States, the Office will publish its final report on State school statistics

for 1957-58 as chapter 2 of the Biennial Survey of Education. Meanwhile, persons interested can refer to the preliminary report, Circular No. 605 (OE-20006), October 1959, prepared by Carol Joy Hobson under the direction of Samuel Schloss, head, State School Systems Statistics Unit. Free copies are available from the Publications Inquiry Unit, Office of Education, Washington 25, D.C.

In the table that follows, figures for 1957-58 are from Circular No. 605. Those for 1955-56 are from *Statistics of State School Systems: Organization, Staff, Pupils, and Finances, 1955-56*.

Statistics of public elementary and secondary day schools, continental United States, 1955-56, and preliminary 1957-58

Item	1955-56	1957-58 (estimated)	Percent change
School-age children (5-17 years, inclusive), beginning of school year...	37,262,000	40,164,000	+7.8
Total enrollment.....	31,163,000	33,632,000	+7.9
High school graduates.....	1,252,100	1,333,500	+6.5
Total instructional staff.....	1,213,500	1,331,900	+9.8
Local school districts.....	54,900	48,600	-11.5
1-teacher schools.....	35,000	25,200	-28.0
Income:			
Revenue receipts (000).....	\$9,686,677	\$11,943,962	+23.3
Nonrevenue receipts (000).....	2,356,189	2,464,722	+4.6
Expenditures:			
Current (000).....	8,163,380	10,099,309	+23.7
Capital outlay (000).....	2,387,187	2,825,180	+18.3
Interest on school debt (000).....	215,699	309,831	+43.6
Average salary of total instructional staff.....	4,156	4,721	+13.6
Current expenditure per pupil in average daily attendance.....	294	340	+15.6

PRACTICAL WORK—AN ESSENTIAL PART OF SOVIET EDUCATION

"... Our aim is to combine manual work with knowledge... this is a real human existence."... ARSEN'EV...

Director of the Institute Theory and History of Pedagogy.



By
MARSHALL L. SCHMITT
Specialist for
Industrial Arts

AS THE Soviet jet, a Tupolev-104, slipped beneath the overcast sky and circled for a landing, one wingtip pointed down toward Moscow, the capital of the U.S.S.R. Aboard was a three-man study team from the U.S. Office of Education. As a member of the study team I visited 14 primary-secondary schools, 7 pedagogical institutes, and 4 research institutes.

Practical Work Required

Soviet educators believe that pupils should have a good background not only in academic work but also in practical work. Practical work, or the application of knowledge to some useful purpose has many values, they say. For example, Soviet educators believe that it helps pupils understand other subjects, develops respect for work and state property, and develops good habits of measurement, drawing, and laboratory techniques. Practical work is required in all grades of the elementary and secondary general schools.

In grades 1-4

In the lower grades, 1-4, pupils work with paper, scissors, paste, cardboard, clay (mixed with oil), cloth, and other common materials. They make simple figures and bowls by pinching, rolling, and pressing clay into various shapes. I saw some of the objects children had made—figures about the size of a small finger resembling dolls with flat clay hats and small arms and legs arranged

in different positions, clay pieces shaped like flowers and animals, and paper boxes painted to look like barns, windmills, and houses.

In drawing classes, pupils learn to hold a pencil, to use colored pencils, and to draw in the right posture. They draw saws, axes, flowers, flags, leaves, doors, windows, and water buckets, for example. Drawing in these grades has an art emphasis, and pupils also discuss paintings of various famous artists. Such activities are conducted in the classrooms with pupils working at their desks.

The school system provides the necessary supplies and equipment such as rulers, knives, triangles, paste, brushes, paintbrushes, hammers, needles, scissors, and pliers. There are enough of some materials, such as rulers and pastebrushes for every class member to have one, but pupils share others, such as hammers and pliers.

Pupils also care for plants and animals. For example, in grades 3 and 4 during the autumn and spring they work on the school's small plot of ground nearby.

Some of the purposes of practical work are to stimulate technical initiative and design creativity in pupils and to help them develop skills in measuring precisely and become acquainted with the properties of materials.

In the middle grades (5-7)

Special workshops and school plots are provided for pupils in the middle

grades—5-7. The workshops are designed for special kinds of work. For example, a woodworking shop might have woodworking benches, lathes, hand tools (wooden hand planes), a small circular saw, a jointer, a teacher's desk, blackboard, and a large tool cabinet (see illus. 1). One of the metal shops I visited had 20 metal vises, a teacher's desk, an assortment of files, a grinder, 4 metal lathes, a small heat-treatment furnace, a first aid kit, many visual aids mounted on the walls, and small storage cabinets. Rooms for sewing are equipped with sewing machines, flat worktables, and storage facilities. The school plots I saw ranged in size from about 1 to 6 acres. The ground was divided into 10-meter square plots so that the various classes might plant crops, such as corn, potatoes, and carrots, and experiment with fertilizers.

In the metalwork shop pupils in grades 5-7 make metal hooks, clamps, right angles, braces, squares, calipers, rakes, tap wrench handles, and other small objects. In the woodworking shop they make wood trays, handles for tools, tables, bookcases, boxes, and flower stands. The technology of working with tools, materials, and industrial processes is taught as a part of the workshop courses.

Dresses, needlework, embroideries, aprons, dress patterns, geology bags, skirts, and blouses are examples of useful articles made by pupils in boarding school No. 12 in Moscow. At the time I visited this school some of the sixth grade girls were making

geology bags, for which they receive a small amount of money. The girls had completed 6,000 of the 20,000 bags they were supposed to make. In the school workshop I saw sixth grade boys making wood shelf brackets. They make 250 brackets a month. I was told, on another production job, that each pupil made from 10 to 15 wooden screwdriver handles in 1 hour. Some of the money the pupils receive for such work is turned in to the school to purchase items needed.

The school plots of ground provide opportunity for pupils to get experience in cultivating field plants, decorative plants, trees, and vegetables, and building beehives, pens, and cages for animals.

Drawing in grades 5 and 6 is more complicated and students make sketches in perspective, such as a box with the open cover, bench, and chair. They also make posters for various holidays and important events, and, as in the earlier grades, they discuss and examine reproductions of Soviet paintings.

Technical drawing begins in grade 7 and the pupils are required to make a series of mechanical drawings. Wooden objects, ranging from simple to complex shapes, are used as models for drawings.

In the upper grades (8-10)

In grades 8-10 of the 10-year school, pupils in urban schools study *bases of production* and do practical work in it—machine operation and industrial production in a specific enterprise. They also have courses in automobile work and electrotechnics. On passing from grade 8 to 9, pupils spend several days during the summer months in agricultural practice on a state farm, and from grade 9 to 10 in an industrial enterprise (see footnote 2, plan II, of the table).

In rural schools, pupils in grades 8-10 study *fundamentals of agricultural production* and do practical work in it—plant growing, agricultural machinery, animal husbandry, and the tractor. Pupils also spend several days in the summer on state farms between grades 8 and 9 and 9 and 10, and pupils in grades 9 and 10 also work during the harvest periods.

Pupils work on lathes, mills, and shapers; they also assemble and finish articles and remove and reassemble various machines. (See illus. 2.) Rural schools have shops for tractors and urban schools have automobile shops. Both tractor and automobile shops have engines mounted on racks for assembly, disassembly, and testing. Transmission, brake, and steering systems are

also mounted for instructional work. Pupils not only learn to drive a car (urban schools) or tractor (rural schools), but study and work on the cooling, oiling, and ignition systems of the vehicles.

With the exception of woodworking, the girls (under programs now offered) take the same courses as the boys. While the boys take woodworking, the girls take sewing. In one of the schools I visited I saw pupils working on assembly drawings as one of their last assignments in a 10th grade technical drawing class and noticed that, just as in other classes and workshops, boys and girls worked side by side.

In electrotechnics, pupils do wiring; work with direct and alternating current motors, transformers, and controllers (electromagnetic); repair appliances and cords; and make connections to operate one- and two-tube radios. They are required to perform a series of prescribed jobs or experiments following instruction sheets made out by the teachers. In one rural school I visited I was told that pupils had wired and helped build electrotechnic facilities for their new shop. The new shop was located next to a metal shop.

Production work is an important part of grades 8, 9, and 10. Pupils go on excursions to visit industrial plants and to observe methods of production, and they get experience in production practice in the school workshops or on school agricultural plots. In Kiev, at school No. 43, a 10-year school, I saw eighth-graders working on a production job making full-sized doors. Industrial workers from the neighborhood factory were working on production along with the teacher and pupils. On the wood planer, for example, a pupil fed long boards into the machine and a worker removed them as they came out and stacked them in a pile. After a short time the worker and pupil exchanged work stations. The production job was coordinated with class study by the teacher and with work in the industrial plant by plant officials.



Sixth-grade pupils in woodworking shop

In grade 9 pupils spend a specified time during school hours on production work at an industrial or agricultural enterprise in a *work experience education program*. In grade 10 pupils study electrotechnics and automobiles or tractors.

Polytechnic Education

In the elementary grades the practical work described in the preceding paragraphs is the beginning of what Soviet educators call *labor training*. Labor training is continued in the special workshops and school plots in the middle grades, although the emphasis shifts from handwork to machine operation.

Pupils' firsthand experience with production—working with a variety of tools, materials, and industrial and agricultural processes—forms an important part of Soviet *polytechnic education*. The term "polytechnic education," as used in the Soviet Union, embraces many concepts, but its primary objective is to help pupils acquire a basic understanding of modern production and its main branches.

The main branches of production, according to Professor Skatkin, vice director of the Institute of Teaching Methods and chairman of its Section of Polytechnical Education, are (1) mechanical production of different materials and products; (2) chemical production; (3) agricultural production, and (4) energy production (particularly electrical energy).

Polytechnic education is more a system of education than a single course or group of courses. Soviet leaders believe that a pupil can acquire polytechnic education by studying all school subjects, but especially physics, chemistry, biology, mathematics, and technical drawing, as these courses form the basis of polytechnic instruction. Among the general or academic subjects they consider geography, for example, as important because through it the pupil learns about the economic resources of production. I was told that the general subjects were the first

to emphasize polytechnic education, and I was also told over and over again that the workshop courses helped pupils understand mathematics and science and that their knowledge of these subjects was deepened by the practical experience they gained in the workshops.

Soviet educators believe that polytechnic education forms a background or base on which the pupil can build a future profession.

Curriculum Reforms

In Soviet attempts to bring the school closer to social and economic features of Soviet life, experiments in the curriculum in the last few years have brought about an even greater emphasis on practical work than that described above. Selected excerpts from official study plans of the Russian Soviet Federated Socialist Republic (RSFSR) show this emphasis. (See table.) The RSFSR is the largest of all Soviet Republics and plays a leading role in standardizing the curriculum for all republics.

The table reveals an increase in practical work in the elementary-secondary school from 1955-56 to 1958-59. The selected courses requiring practical work (see table, study plan II) were a part of the total curriculum

of 25 percent of the schools in the RSFSR in 1957-58. During the school year 1958-59, 50 percent of the schools were on this plan. Detailed footnotes to the table reveal additional required practical work after school for study plan II.

The practical work cited in study plan III for 1959-60 provides for an extra school year—making a total of 11 years for elementary and secondary education. In addition, greater emphasis is put on practical work in grades 9, 10, and 11.

Actually, the curriculum reforms are in a state of broad experimentation, and each year, no doubt, the curriculums will be revised in the light of the experience gained. The overall aim, however, of these new reforms is to develop an 11-year elementary-secondary general polytechnic school between 1963 and 1965.

At present, 8 years of education is being made compulsory under the school reforms, with grades 9, 10, and 11 optional. The directors of schools I visited told me that most pupils graduated from eighth grade and then went on to a secondary school. Those who do not attend general secondary schools (grades 9, 10, and 11) go to vocational schools, technicums, or take correspondence courses.



Eighth-grade pupils studying machinery

Selected Courses Requiring Practical Work

[2 figures for 1 grade in a column indicate number of hours for each semester]

STUDY PLAN	Hours of instruction per week in grades—										
	1	2	3	4	5	6	7	8	9	10	11
STUDY PLAN I¹											
10-year school, 1955-56:											
Drawing.....	1	1	1	1	.....	.....	.....	.....	.....	.....	.....
Technical drawing.....	.....	.....	.....	.....	.....	.....	1	1	1	1	.....
Practical work (labor training)...	1	1	1	1	2	2	2	.....	.....	.....	.....
Practicum in agriculture and machine technology and electro-technology.....	.....	.....	.....	.....	.....	.....	.....	2	2	2	.....
1955-56 total.....	2	2	2	2	2	2	3	3	3	3	.....
STUDY PLAN II²											
10-year school, 1958-59:											
Drawing.....	1	1	1	1	1	1	.....	.....	.....	.....	.....
Technical drawing.....	.....	.....	.....	.....	.....	.....	1	1	1	1	.....
Practical work (labor training)...	1	1	2	2	2	2	2	.....	.....	.....	.....
Principles of production.....	.....	.....	.....	.....	.....	.....	.....	3	4	4	.....
1958-59 total.....	2	2	3	3	3	3	3	4	5	5	.....
STUDY PLAN III³											
11-year school (proposed 1959-60):											
Drawing.....	1	1	1	1	1	1	.....	.....	.....	.....	.....
Technical drawing.....	.....	.....	.....	.....	.....	.....	1	1	1	1	.....
Practical work (labor training)...	1	1	2	2	2	2	2	.....	.....	.....	.....
Basis of industry (principles of production).....	.....	.....	.....	.....	.....	.....	.....	3	2	0-2	.....
Practical and theoretical training in industry (industrial work experience).....	.....	.....	.....	.....	.....	.....	.....	.....	6	12	18
1959-60 total.....	2	2	3	3	3	3	3	4	9	13-15	18

¹ E. N. Medynskii. *Prosveshchenie v. SSSR*. (Moskva: Ministerstvo Prosveshcheniya RSFSR, Uchpedgiz, 1955) p. 84.

² Main Administration of Schools, RSFSR Ministry of Education. Study plan of elementary, 7-year, and secondary schools for experimentation in the 1957-58 school year (in Russian). Looseleaf. Moscow, 1957, 2 p.

(1) In grades 5, 6, and 7, 22 hours are spent in each grade on fall and spring work in the school plot (garden).

(2) Besides the practical exercises and educationally productive practice carried out in grades 5-7 and in 8-10 during the school year, there should be provided:

a. Educationally productive practice in urban schools—on the school plot at the time of transition from grade 5 to grade 6—, 6 work days (3 hours a day), and at the time of transition from grade 6 to grade 7, 6 workdays, at the rate of 3 hours a day. In rural schools, 12 workdays (3 hours a day) on the school plot on a collective farm during the change from grade 5 to 6; and 12 workdays, at the rate of 3 hours a day, during the change from grade 6 to 7.

b. Educationally productive practice in agriculture at the time of transition from grade 8 to 9, for urban and rural pupils, for 24 days at the rate of 4 hours a day.

c. Educationally productive practice in agriculture at the time of transition from grade 9 to 10, for pupils of rural schools, for 24 days (4 hours a day); and in industrial enterprises, for urban pupils, for 29 days at the rate of 4 hours a day.

(3) To each 10th grade pupil there will be assigned 10 hours for learning practical driving in an automobile (tractor).

³ One of several plans used experimentally in preparation for new curriculums to be used in school years 1959-60 and following. (S. G. Shapovalenko, Ed. *Soedinenie obucheniia s proizvoditel'nyim trudom uchashchikhsia (opyt piatidesiati shkol RSFSR)*. (Combining instruction with productive work of pupils. Experience of 50 RSFSR schools). Moscow, Academy of Pedagogical Sciences, 1958. p. 198.

Work Experience in Industry

One significant change in curriculum is the requirement for increased pupil participation in production work in a particular industrial or agricultural enterprise. It is a *work experience education program* in which each pupil devotes a part or all of the day to work. Some choice is available to the pupils, since different kinds of enterprises are used for such work experience. They may go into clothing plants, machine plants, textile plants, farms, and polyclinics (medical), to become qualified workers as medical aides, tractor drivers, fitters, turners, electricians, or machine operators. Pupils are paid for their industrial work.

The ninth grade is an orientation period for the pupil. He not only receives instruction in the fundamentals of production, but also takes excursions to industry to help him decide the kind of work he wishes to do. Of course, his choice of work is limited to that available in the factories or farms in his immediate area, and the job requirements may change each year with the needs of the enterprises. In one organizational plan, pupils in grade 9 spend about 1½ months of work in industry.

Under one organizational plan, pupils in grades 10 and 11 spend 3 days (Monday, Tuesday, and Wednesday) at work at the enterprise and 3 days (Thursday, Friday, and Saturday) in the academic program in school. Another plan is to alternate work and school every other day; first at school, then at the enterprise. Instruction on the job is through the apprenticeship method. The pupil is first shown how to do a job; then he asks questions and gets help as he needs it. He is systematically placed on other jobs during this period of training so that he may get the experience in his selected specialty.¹

Theoretical training or information

¹ A specialty is a worker's job classification, such as fitter (repair), fitter (assembler), electrician, polisher, carpenter, and patternmaker.

related to the work experiences of the pupils is taught at the plant or in the school—either by the workshop teacher or engineer at the plant. Representative of some of the topics discussed for the specialty of “fitter” are: Metal technology, measuring instruments, technical drawings and how to read them, machine hydraulics, organization of production, and the calculation of salary. The 11th year provides an opportunity for the pupil to increase his skill as an industrial worker.

The pupil receives about the same amount of academic training in the 11-year school as he would have received in a 10-year school. The extra year extension was necessary, I was told, to provide for the academic and the increased industrial experience.

Dual Function of Education

To combine academic work with practical work for all pupils is one of the primary aims of the new reforms. This is an ambitious plan, and Soviet educators are striving hard to realize it fully between 1963 and 1965.

Their belief in this combined educational program was characterized by a statement by Academician A. M. Arsen'ev, Director of the Institute of Theory and History of Pedagogy, when he said, “We are optimistic here. Our aim is to combine manual work with knowledge—this is a real human existence.”

Challenge and Problems

Our study team had an opportunity to visit some of the schools of a major world power struggling to put into practice the educational idea of combining manual work and academic education—never before attempted on such a massive scale in general education. This is a real challenge to Soviet education.

As the forces of the Soviet economy and education come to grips with this dual function of their general schools, difficult problems must be overcome before it can be fully realized. For example, Soviet educators face a number of problems: (1) The training of teachers well qualified to teach “polytechnic courses” in wood-working, metalwork, and fundamen-

als of production; (2) the reorientation of academic teachers and administrators with the philosophy of polytechnic education; (3) the effective coordination of industrial and agricultural work experience with the school curriculum; (4) the determination of production work which is educationally and socially useful for the school to produce; (5) the shortage of needed workshop facilities and equipment; and (6) the effect of this new educational reform on the present vocational schools.

This new reform has broad implications, since it not only deals with improving an educational structure but also affects directly the productivity of a nation in which combinations of academic and other skills are in great demand. The harnessing of all available manpower, even while pupils learn, may ultimately raise the standard of living. For, if this vast experiment is successful, it will open up a new era of education, especially for countries on the threshold of introducing mass production as an economic method of developing their natural resources.

SCHOOL REVENUE: PREFERRED SOURCES

By Clayton D. Hutchins
Chief, School Finance Section, Office of Education

SCHOOL support patterns in the United States are determined by the people as they choose among the various taxes commonly used for financing the schools and as they decide on the proportions to be supplied by local and State taxation. Citizens express their preferences directly through voting in local elections and through decisions of their elected representatives serving on boards of education and in the State legislatures.

Through these support patterns, about \$12 billion, or approximately 3 percent, of all personal income, was

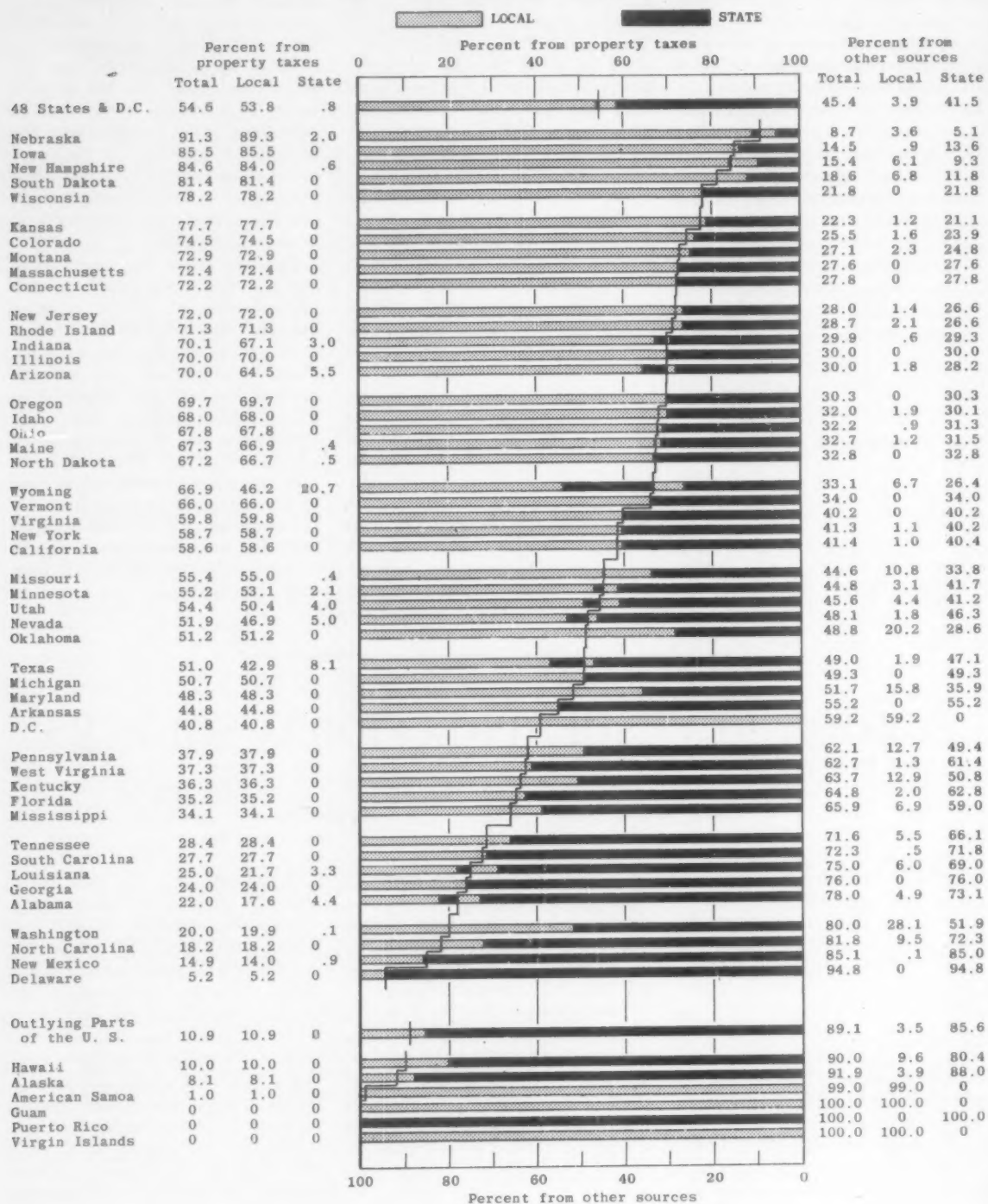
made available for public education during the 1957-58 school year. Estimates indicate that local sources provided 55 percent of the total revenues; State sources, 41 percent; and the Federal Government, 4 percent.

The accompanying chart reports the proportions of non-Federal school revenues derived from property taxes and from other sources and the proportions derived from local and State sources for each State. States are arranged according to the proportion of school funds derived from property taxes.

A stairstep line in the chart represents the division between property taxes and nonproperty taxes. Percentages and bars to the left of this line indicate the proportions of school funds derived from property tax sources; percentages and bars to the right, the proportions from all other sources. Usually, the property taxes come from local sources and the non-property revenues from State sources.

States listed first in the chart rely chiefly on local property taxes, while those listed later rely chiefly on State sources for their school revenues.

**Non-Federal school revenue from property taxes and other sources,
derived from local and State levels, 1957-58**



State funds come chiefly from the State sales and income taxes and from the State licensing functions as authorized by State legislatures.

Local Revenue

School revenues represented by the percentages and bars to the left side of the chart may be regarded as compromises within the approximately 48,000 local school administrative units of the Nation. For each unit, the local board of education approves a school budget. Many participating in this approval want improved educational services and higher budget allowances. Some resist immediate improvements, thinking of other urgent public services and the taxes required to finance them. In each community, the school budget adopted represents the will of the majority under the circumstances—higher than some would support and lower than others believe advisable—and local taxes are then levied on the assessed value of all taxable property to supply public funds for the budget.

In levying taxes for schools, boards of education operate within certain legal authorizations and limitations. These boards usually have the authority to levy up to a stated limit without electoral approval. If the recommended budget requires additional revenues, the proposal to levy additional taxes beyond the rate limitations may be submitted to the voters. If the proposal is disapproved, the school budget must be reconsidered and a reduced budget proposing the expenditure of no more than the total revenues that apparently will be available is then accepted. If the extra levy is approved at the election, each taxpayer will be required to contribute a larger amount to support the recommended budget.

No estimates are available on the amount of local taxes for schools which are levied by the board "within" its taxing limitations or authorizations and those which are authorized by vote of the people "outside" such restrictions. However, it is presumed that a substantial proportion, a third, for example, of these funds

becomes available through frequent references to the ballot and that the voted revenues supplement in a substantial measure the amounts obtained by board action alone, within existing taxation limitations. Practices throughout the United States vary widely on questions of board and voter approval. In some States no proposals to approve school fund levies are submitted to vote, and, in other States, all levies for school revenue are approved by vote of the people.

State Revenue

Similarly, funds represented by the percentages and graphic presentations to the right side of the chart represent the majority opinion of the taxpayers of the State. State funds are appropriated by the State legislatures for distribution to the local

Wright Brothers Day

President Eisenhower has proclaimed December 17, 1959, the 56th anniversary of the first flight by man in a powered, heavier-than-air craft, as Wright Brothers Day and has asked the entire Nation to mark the event.

On this day schools as well as civic organizations and industry will salute the Wright Brothers and their first flight.

school administrative units. Here, also, the amount allotted may be regarded as the result of many compromises. The State legislature considers amounts to be appropriated, noting opinions and reasons advanced by those wanting improvements in the program of the public schools and also by those resisting larger State appropriations for schools.

Final decisions of the legislatures to provide funds for the 1957-58 school year are represented by the State percentages in the chart. States listed early in the chart make relatively small appropriations for schools and depend on local boards of education to levy local taxes for

school support, while States listed later provide larger proportions of the school funds from State sources and thereby relieve the local school administrative units of supplying the major proportion of the school support funds.

Freedom of choice on these public questions accounts for the variation in prevailing practices. Requests for funds to finance the school programs are not made to an outside gratuitous entity. Instead, the people in the school districts, the boards of education, and the State legislatures consider the financial requirements of the program they desire and decide on the extent that they will provide their own funds for these public services. This kind of financing has developed the public school systems of the United States, and these school systems have served the communities, the States, and the Nation through the further development of human resources.

State funds for 1957-58 were allotted to the schools through the operation of 411 separate distributions, representing an average of more than 8 school funds to a State. Some of the funds are for the general program of education and may be expended according to the judgment of the local school officials, while other funds are for special purposes and must be expended for the educational purposes specifically designated by the State legislators.

Balanced Support

A partnership relationship between local school administrative units and the States for the support of public schools is apparent in the chart. Varying practices, exhibited by the chart, in methods of financing the schools are to be expected. Degrees of local and State concern for financing education and interests in financing other public services have important influences. Furthermore, the kind and vigor of the economy affect decisions on the extent to which State funds should finance education and the extent to which it is appropriate to rely on local tax sources.

Plans for the coming White House Conference on Aging show that we have come far in our understanding of what education can do for the aging

EDUCATION FOR AGING

By AMBROSE CALIVER, Chief, Adult Education Section

"I AM NOW seventy-nine and the days are all too short for me to hear, see, and touch the things around me. God Almighty, were I to be here another hundred years, I shouldn't be satisfied that I had seen, heard, and touched enough."

"We must begin at school and in college to learn to absorb life so that when we grow old we may be filled with its colors, thoughts, and sounds and so spend our last years in the melodies of sound, of color in flower, tree, and costume, and the lovely songs sung in poetry, story, and play. If we don't, then the old seek relaxation in being a misery to themselves and a damned nuisance to others."

—Sean O'Casey, "The Delicate Art of Growing Old", in *Harper's Magazine*, August 1959, quoted with the permission of *Harper's Magazine*.

WITH THESE BRIGHT words Sean O'Casey has struck an answering chord in the minds of the planners for the White House Conference on the Aging. For he speaks one of their deepest convictions: That men and women, as they grow old, need more than food, and medicines, and a roof over their heads; that they need, as they have never needed before, the zest-giving qualities of imagination, curiosity, adventure, creativity, and self-confidence; and that only through education can these qualities be cultivated and kept blooming.

The White House Conference on Aging, when it meets in 1961, will pay just as much attention to education as it will to housing and health and other topics bearing on a good old age. Its planners have given education its own planning committee:

TEN EDUCATORS: George E. Davis, Purdue University; Oliver K. Garretson, University

of Arizona; Sam E. Hand, Florida State Department of Education; Andrew Hendrickson, The Ohio State University; Irving Lorge, Teachers College, Columbia University; John W. McConnell, Cornell University; Victor Morel, New York City Public Schools; Earl R. Moses, Morgan State College; Grace T. Stevenson, American Library Association.

FIVE REPRESENTATIVES OF NATIONAL ORGANIZATIONS: J. Blaine Fister, National Council of Churches; Samuel Jacobs, United Auto Workers, CIO-AFL; Arthur L. Kirkpatrick, Chamber of Commerce of the United States; Benjamin M. McKelway, Associated Press; Joy Elmer Morgan, Senior Citizens Clubs of America.

THREE CITIZENS CHOSEN AT LARGE: Will E. Neal, West Virginia; Georgia Patterson, Oregon; Ella P. Stewart, Ohio.

A technical director for education also has been appointed to give technical and administrative assistance and serve as the secretariat to the planning committee; he will also prepare a guide for both the White House Conference and the State committees and conferences on aging. As much as his time permits, he will serve State conferences as consultant and resource person.

Logically, the office of the technical director has been placed administratively in the Adult Education Section of the Office of Education. I say "logically" because the Adult Education Section has always been concerned with education for aging, and because a staff member has served as liaison for the Office with the program for the aging ever since its inauguration. The director's connection with the section engages for the conference the cooperation not only of the section's specialist in education for aging but of all other members of the staff.

It also facilitates the use of resources in other units of the Office, for carrying out the purposes of the

conference and whatever recommendations the conference may make. In short, it insures a measure of continuity between the programs of the past and those of the future.

THE REASON FOR having an education section in the White House Conference becomes especially clear when we look at it against the objectives of education for aging. Education for aging has the same goals as education for everyone else in a democratic society—to help each person realize his highest good as an individual and as a member of society. It must therefore adopt the same objectives: Provide knowledge, develop skills, build attitudes, change habits and behavior patterns, instill a right sense of values, and motivate toward activity.

In other words, education for aging must be carried out in the broad context of modern education if it is to be effective. It follows that it must be thought of as a means rather than as an end; as a process designed to lead out, release, nurture, and help to flower such fundamental qualities as imagination, curiosity, adventure, creativity, and self-confidence. The difference between doing this for older people and for children is that, for most older people, the qualities will have to be recaptured, restored, and refurbished, for they have been lost or weakened through nonuse or misuse. Restoration calls for education, yet the opportunities for continuing education beyond formal school age have been limited.

Effective education for aging, like effective education for everyone else, not only must be increased but must also be made dynamic and expansive. Learning must be meaningful, involving personal experience, and must

foster in the learner a sense of responsibility for his own learning. Furthermore, the principle of individual differences operates more strongly as persons grow older. Older persons have much to unlearn as well as to relearn.

Education for aging must also be considered in the broad context of adult education. We must recognize that education is continuous and lifelong; that it may be acquired in many kinds of places and through all sorts of media, not only in the schoolroom or laboratory or through a textbook; that the principles of learning that apply to children apply also to adults, but in most cases have to be applied in a special way; and that adults can learn, want to learn, and *will* learn when given the opportunity under favorable conditions.

These principles must be recognized. If they are not, much of the effort we put forth in other directions to improve education will be wasted. To the extent that they are recognized, to that extent we improve the effectiveness of all else we do, whether it is for more efficient organization and administration, better physical facilities, more generous financial support, or richer course offerings.

THE BROAD PURPOSE of the Education Section of the White House Conference on Aging, therefore, is to inject these ideas and this philosophy into the deliberations of the conference and to help diffuse them so that each of the other sections may use them in carrying out its purposes. These principles must underlie the conference if it is to have a positive rather than a merely remedial approach to aging and its problems.

The Education Section should point out that many ills of older people—physical, mental, economic, and social—are behavioral and therefore amenable to treatment through education. More important, the Section should help the conference recognize that educational principles can introduce a more constructive and wholesome approach to all problems of the aging. I do not suggest that educa-

tion is the panacea for all of these problems. Nor that it can insure a ripe and happy old age for everybody. It can help only those who are willing, receptive, and responsive. There are enough of these persons to tax all our resources.

The Education Section also should stimulate and assist organized educational agencies in marshaling their resources for the good of both the individual and the community. Organized education, of course, should not attempt to assume the functions of other agencies of society; it has substantial functions of its own:

IN LOCAL COMMUNITIES: Here the responsibility will be seen more and more as belonging to the local school system, cooperating with other groups. In view of the growing number of old people and the accelerating rate of change with which childhood education alone cannot cope, the schools must assume a larger responsibility.

ON THE STATE LEVEL: The State department of education clearly has a responsibility for leadership. The State educational agency should conduct studies and collect statewide statistics, conduct demonstrations and pilot projects, provide administrators and supervisors to give leadership and consultation, provide financial support and channel it into local communities, and set up a clearinghouse of information. It can find ways of bringing about better cooperation and coordination among the agencies in the State concerned with aging, such as libraries, industries, labor unions, media of mass communication, and professional, civic, and welfare groups.

INSTITUTIONS OF HIGHER LEARNING: These have a heavy responsibility to cooperate with State departments of education and other groups, to train teachers and leaders, to develop materials, and to conduct research and experimentation. Without such service we shall fall far short of our goal.

ON THE NATIONAL LEVEL: The Office of Education can provide and stimulate leadership through research, demonstrations, and dissemination of information. It should help identify problems and needs, marshal national resources, and discharge its other obligations in this field.

In brief, therefore, the Section on Education for the White House Conference has been designed to help everyone concerned with aging do certain things in achieving his own objectives as well as those of education itself. To those of us who have been

concerned with this matter over the years, particularly during the past few months, the Section on Education has these long-range objectives:

- (1) To help people realize that education can introduce a positive element in the aging process.
- (2) To help aging persons understand that education is a means toward a mature, satisfying, and fruitful old age.
- (3) To help people recognize that education can create and change community attitudes and behavior toward older people.
- (4) To encourage the training of older persons for identifying, nurturing, and using their talents and resources for the benefit of the community as well as themselves.
- (5) To help people use educational processes in achieving all the objectives for the aging: Health, income maintenance, employment, housing, and good family life.
- (6) To help educational institutions and community agencies provide the research studies, demonstrations, and experimentation necessary to achieve these objectives.

We know much more about the ways of achieving these objectives than we practice, but to achieve them as effectively as the urgency and magnitude of the problems require, we need more research, demonstration, and experimentation. We need more leaders dedicated to the purposes of democracy and committed to the conviction that education can contribute greatly toward realizing those purposes.

In many respects education for aging is the most difficult task organized education has faced. In addition to becoming more "set in one's ways" as the years pass, the aging person has other deterrents to learning—lessening capacity, inertia, pride in his own ideas and attitudes, and the fear of revealing ignorance—deterrents that grow stronger as the years pass unless the person keeps mentally alert. Besides, we often permit outside forces to determine our values, and we live vicariously. It is my hope that as we move ahead in education for aging we will not permit ourselves to be fettered by a system that "school" many of us to *exist only* on the periphery of life, but that we will put to full use the knowledge we have about learning, and as John Gardner says in his essay on excellence, make education the servant of all our purposes.

Briefed here, 5 laws of general interest to elementary and secondary education

FEDERAL LAWS FOR EDUCATION

—86th Congress, First Session

By CHARLES W. RADCLIFFE, *Assistant to the Assistant Commissioner for Legislative and Program Development*

OVER 12,000 bills were introduced during the 1st session of the 86th Congress before it adjourned on September 15. Of these, 383 were enacted into law. Approximately 1,000 of the bills are of some interest to education; about 50 of the laws have some educational implications. Five of them are of particular interest to elementary and secondary education.

Public Law 86-10, approved April 3, 1959, authorizes the use of an additional \$3 million of Commodity Credit Corporation funds during the fiscal year ending June 30, 1959, for the special school milk program, to increase the consumption of fluid milk by children in nonprofit schools of high school grade and under, and in nonprofit nursery schools, childcare centers, settlement houses, summer camps, and similar nonprofit institutions devoted to the care and training of children. This action increases the total authorization for fiscal year 1959 to \$78 million.

Public Law 86-80, the Department of Agriculture Appropriation Act, 1960, approved July 8, 1959, appropriates \$110 million to carry out the provisions of the School Lunch Program in fiscal year 1960, the same amount as for fiscal year 1959. The act also provides for the transfer of \$43,657,248 from funds authorized under section 32 of Public Law 320 (enacted in 1935) to the School Lunch Program for the purchase and distribution of agricultural commodities to schools, making a total of more than \$153 million available for this program.

Public Law 86-91, the Defense Department Overseas Teacher Pay and

Personnel Practices Act, approved July 17, 1959, provides a system of personnel administration for teachers, certain school officers, and other employees of the overseas dependents schools of the Department of Defense comparable to the system found in public elementary and secondary school systems in the United States. It exempts teachers employed overseas by the Department of Defense from provisions of Federal personnel laws unsuitable for school personnel. The act, based on recommendations of the Department of Defense, should help make employment in overseas schools more attractive.

Public Law 86-158, approved August 14, 1959, makes appropriations for the Department of Health, Education, and Welfare for fiscal year 1960. *School Life*, October 1959, reports on appropriations for the Office of Education under this act.

Public Law 86-163, approved August 18, 1959, increases the authorization for expenditures from funds of the Commodity Credit Corporation for the special milk program, to increase the consumption of fluid milk by children in nonprofit schools of high school grade and under, and in nonprofit nursery schools, childcare centers, settlement houses, summer camps, and similar nonprofit institutions devoted to the care and training of children. Authorization for the fiscal year beginning July 1, 1959, and July 1, 1960, had been \$75 million for each year. The act raises them to \$81 million and \$84 million, respectively.

School Construction Bills Pending

Many bills introduced in the first session of the 86th Congress are still pending (many bills, however, do not receive active consideration by the committees to which they are referred for study because they are duplicates or cover the same subject matter).

A number of bills that would affect education had committee hearings in the 1st session of the 86th Congress and may be acted on in the 2d session, which convenes January 6, 1960. The most important of these are the bills that would provide Federal assistance to the States for school construction or teachers' salaries. Among these bills are two which embody the recommendations of the Department of Health, Education, and Welfare (S. 1016 and H.R. 4268) for a 5-year \$600 million program to assist needy school districts.

The House Committee on Education and Labor favorably reported an amended version of H.R. 22 on June 8, 1959. If passed, it would authorize, for each of 4 fiscal years, the appropriation of an amount equal to the product of \$25 times the school-age population of all the States for allotments to the States to be used for the construction of public school facilities and for teachers' salaries.

On September 12, 1959, the Senate Committee on Labor and Public Welfare favorably reported S. 8, a bill authorizing the appropriation of \$500 million for each of 2 fiscal years to be allotted to the States for school construction.

Favorable reports on these bills by committees virtually guarantees that Federal-aid legislation will be debated by the 2d session of the 86th Congress.

LOCAL SCHOOL BOARD *Policy Manuals*

By ALPHEUS L. WHITE,
*Assistant Specialist,
Local School Administration,
Office of Education*

EDUCATIONAL policy development is commonly regarded as the most important function of local boards of education. It is through the exercise of this function that school boards make numerous important decisions on educational matters that have been left to their discretion by the State. In recent years emphasis has been placed on improving the effectiveness of local boards as educational policymaking agencies. One important aspect of this emphasis has been the attention given to written statements of board policy or manuals setting forth systematically important school board decisions.

Interest in Written Policies Grows

Although the practice of developing written statements of policy is far from being universal, more and more boards are becoming interested in developing them. Perhaps the attention and support given this movement by authorities in school administration account for much of the widespread interest. Many of them have emphasized that written statements of policy greatly influence the operation of school systems. They have pointed out that written policies, among other things: (1) Foster continuity, stability, and consistency of board action; (2) enable the board to provide for many conditions before they arise; (3) save time and effort by eliminating the necessity of making a decision each time a recurring situation develops; (4) aid boards in appraising educational services; (5) improve board-superintendent relationships; and (6) help orientate new board and staff members to their jobs.

State school board associations have also been active in this movement. Numerous articles, expressing the desirability of adopting written board policies, have been included in the associations' periodicals and handbooks. Some associations have prepared suggested policy manual outlines; others have made packets of materials dealing with written policies available for loan.

A Recent Study

What have some school systems accomplished in the way of policy development? To learn the answer to this question and to provide information that would assist others in developing comprehensive manuals, the Office of Education recently conducted a study¹ of 60 manuals prepared

by various types and sizes of school districts in 17 States.

Attention was focused primarily on the topics treated rather than on the provisions of each policy. The topics included in these 60 manuals, as analyzed and described in the study, furnish school boards with a wide range of areas to consider when developing policy manuals. Some of the highlights of the study are presented in this article.

Similar Topics Treated

The possible influence of school district size (based on pupil enrollment) on policy coverage was considered in a preliminary analysis of the 60 manuals. Although some variations in coverage were found, distinctive patterns of coverage for different-sized districts were not evident. This perhaps indicates that there is a common core of matters for which every school board of an operating district needs to adopt policies and that this was recognized in the smaller school systems represented in the study.

Types of Statements

Differences were noted in the amount of detail included in the manuals. Some manuals contained broad statements expressing board policy but left the details required to put the policy into effect to administrative officers. Other manuals were more specific; for example, they prescribed detailed directions, leaving little to the discretion of the professional staff. Such detailed statements are labeled by many authorities as administrative rules and regulations.

As an illustration of the two types of statements, consider the following statement included in some manuals on the selection of personnel: "The superintendent shall nominate all employees to the board of education for selection." Other manuals went beyond this broad discretionary type of statement and indicated the specific items of information about prospective employees that the superintendent had to collect and specified the procedures for persons to follow in applying for a position. Such variations point out the lack of agreement on the specific content of a board policy manual.

Distinguishing Between Policies and Rules and Regulations

Some manuals distinguished between the types of statements included. That is, the broad discretionary statements were identified as policies and the detailed statements by such terms as "administrative rules and regula-

¹ *Characteristics of Local School Board Policy Manuals*, by Alpheus L. White. 1959. 54 p. 25 cents. (Bul. 1959, No. 14)

tions" or "general procedures." However, this was not the usual practice. Such distinctions were not made in many manuals that contained both types of statements. Where titles of manuals, such as "Policies and Regulations" or "Policies and Procedures," indicated the inclusion of a wide range of information, the contents were not generally subdivided on the basis of the titles.

Among the manuals that distinguished between policies and rules and regulations, there was little agreement on what were policies and what were rules and regulations. Statements labeled in some manuals as "policies" were labeled in others as "rules and regulations."

Internal Arrangement of Topics

No typical pattern was followed in organizing the contents of the manuals. Although there were some similarities, each manual had its own distinctive internal arrangement. In some manuals the first section stated the board's philosophy of education, described the school district, or perhaps briefly described the board's source of authority. In many manuals the first topic dealt with the bylaws of the board of education.

Board of Education Bylaws

Nearly all of the 60 manuals had provisions sometimes referred to as *board bylaws*. Since these provisions specified how the internal affairs of school boards were to be conducted, the emphasis on bylaws is readily apparent. Such ground rules governing board organization, meeting procedures, and deliberations assist members in conducting school board affairs efficiently and orderly.

While manuals differed in the specific topics treated, they dealt with many common topics. Bylaws dealing with such matters as the selection of board members, board functions, duties, and meetings, and board committees were mentioned frequently. Less frequently mentioned in the manuals were bylaws dealing with such matters as the orientation, resignation, and dismissal of board members.

Personnel Administration

Statements on personnel administration covering a wide range of topics were included in every manual. And, in some, more space was devoted to personnel administration than to any other area. Reasons for this emphasis are not difficult to see. The increasing size and complexity of school organization, coupled with unprecedented problems of personnel shortages and rapid increases in enrollment, have contributed to the need for written personnel policies. Development of an able staff is of such significance that it cannot be left to mere chance. Spur-of-the-moment decisions, which hinder the development of a well-functioning and capable staff, can be avoided by the adoption and use of personnel policies.

The personnel provisions in the manuals were related to five broad topics: (1) Employment processes, (2) job requirements, (3) salaries and related benefits, (4) professional growth, and (5) personnel placement changes. Analysis of the provisions within each of these topics revealed that most frequently they dealt with the selection of personnel, job qualifications, duties and responsibilities of personnel, salaries, sick leave, in-service education, and retirement. Less frequently dealt with, though essential to efficient personnel administration, were such matters as personnel orientation, professional conduct, supervision and evaluation of personnel, and promotions.

Of special interest was the large number of manuals (9 out of 10) that contained lists of personnel duties and responsibilities. Many of these lists were comprehensive, covering such positions as the superintendent, business manager, director of instruction, teachers, custodians, and cafeteria workers. These lists contained information common to all job descriptions—a description of the activities and tasks associated with a particular position. School systems that have developed such lists should have little difficulty in preparing complete job descriptions. However, some people would hold that extensive lists

of staff position duties and responsibilities, except perhaps for the superintendent as executive officer of the board, would be more properly placed in administrative handbooks than in board policy manuals.

The School Program

Considerable attention was given in the manuals to school management, pupil personnel administration, the educational program, and auxiliary services.

School management—A wide range of provisions dealing with such matters as the scheduling of school activities, records and reports, instructional materials, and money drives were grouped under the term "school management" in the study. A majority of the manuals contained provisions on at least one of these topics. Many of them dealt with several different aspects of school management.

Pupil personnel administration—As perhaps would be expected, many of the manuals contained provisions on pupil personnel administration. A sizable number of the manuals had separate sections on pupil personnel policies. Primary emphasis was given to the admission of pupils to school, attendance, discipline, and pupil safety. However, many manuals had provisions on pupil assignment, classification, and progress.

The educational program—School boards, having been created to administer the affairs of school districts, have as their major purpose the providing of an educational program. To accomplish this task in the most effective manner, board policies are needed to provide guidance to the professional staff in developing and administering the kind of educational program desired by the community. Naturally, school boards would not be expected to deal directly with the technical or professional aspects of the educational program, but they do need to provide favorable conditions for effective teaching and learning.

The inclusion of policies on the educational program in most of the manuals indicates the interest boards have in this area. While variations existed

in the topics treated, many manuals contained provisions on different aspects of the program, such as curriculum, supervision and evaluation of the program, student organizations and activities, and specialized instructional services.

Auxiliary services—Auxiliary or supporting school services, consisting of health, school lunch, and transportation programs, are widely recognized as being necessary components of most school programs. Many of the board manuals had policies related to these auxiliary services. For example, over 70 percent of them contained provisions on the health program.

Business Management

The operation of a school system is a major enterprise involving many different business activities. Money must be secured and budgeted, buildings must be constructed and maintained, supplies and equipment must be purchased and distributed, and public funds and property must be protected. All of these activities, either directly or indirectly, influence the educational program. School systems need business policies which will foster good business practices and assist in providing the kind of schools desired.

Policies related to many business management activities were contained in the 60 board manuals. Most frequently, provisions dealt with financial accounting, maintenance of property, supply and equipment management, and budgetary procedures.

School-Community Relations

The establishment and maintenance of good school-community relations are important functions of boards of education. While the personal efforts of board members are important in improving school-community relations, there is also a need for school system policies that give direction to a continuous program. Without accurate and reliable information about its schools and opportunities to participate in school affairs, a community could hardly be expected to support

its school intelligently and effectively.

Practically all of the manuals had at least one policy pertaining to school-community relations, and many of them contained a number of policies on this topic. These provisions were related to such matters as the use of school property by the public, interpreting school activities, selling and advertising on school property, citizen complaints, and relationships with community agencies.

Using the Study

While policy manuals need to be hand tailored to fit specific situations, the topics treated in the 60 manuals may be of assistance to school boards in developing their manuals. These topics constitute a basic outline of areas that a number of school systems have considered as important aspects of manuals. From this outline, adaptations may be made to meet individual school system requirements.

STATISTICS OF THE MONTH

40-Year Decrease in One-Teacher Schools

THE NUMBER of one-teacher schools decreased from 196,037 in 1917-18 to 25,200 in 1957-58.

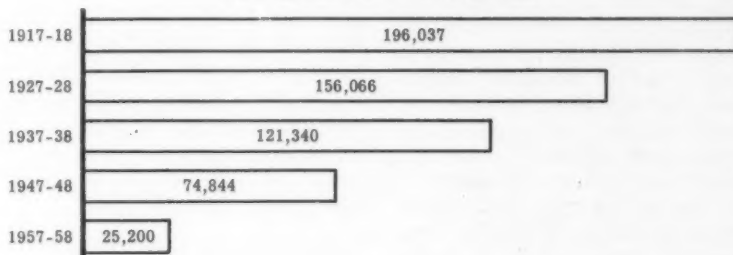
The percentage of all schools that were one-teacher decreased in the same period from 70.6 to 20.7 percent.

During this 40-year period, 87.1 percent of the one-teacher schools

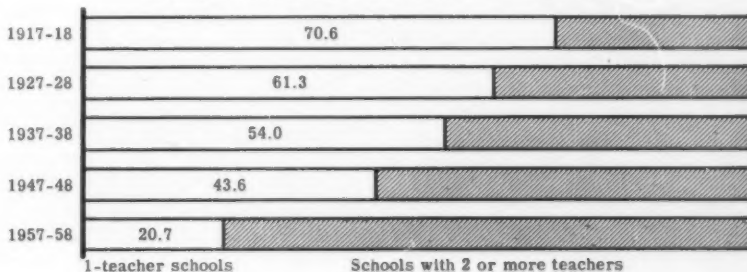
were abolished or consolidated in larger schools.

For further data see "Small Schools Are Growing Larger—A Statistical Appraisal," Office of Education Circular No. 601, and "Preliminary Statistics of State School Systems, 1957-58," Circular No. 605.

NUMBER of 1-TEACHER SCHOOLS



1-TEACHER SCHOOLS as PERCENT of ALL SCHOOLS



FOR EVERY SCHOOL IN THE NATION

Standard Accounting for School Activities

By FRED F. BEACH, *Director*, Educational Administration,
and GEORGE G. TANKARD, Jr., *Specialist*, Educational Records
and Reports, Office of Education

SCHOOL activities have become a billion dollar enterprise in the United States. While it has been impossible to determine the exact amount of money involved, best estimates indicate that more than a billion dollars is expended annually for these activities. Moreover, expenditures are increasing. North Carolina, for example, reports an increase in school activity funds from approximately \$27 million in 1953 to more than \$40 million in 1958.

For the most part, school activity moneys are nontax funds. These funds differ from those handled by boards of education to pay regular school expenses for such items as teachers' salaries, building operation and maintenance, and similar items. School activity funds include moneys that individual schools handle in the operation of such school activity programs as athletics, entertainment, clubs, debating societies, publications, food services, bookstores, and the like.

Since large sums are expended for student activities, the demand for their economical, safe, and efficient administration is only natural. This demand is heightened by revelations of misuse or loss of such funds and the lack of reliable figures about them for the Nation as a whole, for most of the States, and for many sizable school districts. This is not surprising. Accounting for school activity funds has been a neglected area of school accounting. Furthermore, there has been a complete absence of standard terminology in the field of school activities to serve as a base for the collection of comparable statistics, and

there has been no established uniform school activity accounting system for the country as a whole.

To remedy this situation, the Office of Education, in cooperation with interested national organizations, has produced a handbook that can serve as a basic guide for accounting for school activity funds throughout the United States. Entitled *Financial Accounting for School Activities*,¹ it is focused on the accounting for money received by individual schools for activities that are financed in whole or in part by the operation of school activity programs. The handbook classifies and defines standard receipt and expenditure accounts and thus establishes the base for comparable statistics. It suggests procedures for safe, economical, and efficient handling of such funds and thus provides a guide for the safe-keeping of school activity moneys. It provides a system of accounting that may be adapted for use by every school in the country and thus establishes a necessary pattern for uniform accounting.

How the Guide Was Prepared

A steering committee of Office of Education staff members was established to coordinate project activities within the Office, and a National Advisory Committee on Financial Accounting for School Activity Funds was created to guide the project.

¹ *Financial Accounting for School Activities*, Office of Education Bul. 1959, No. 21, is for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C., for 50 cents a copy.

At its first meeting in December 1957, the Advisory Committee defined the purpose of the project and laid out the overall plan for developing the handbook. Following the plans agreed on by the Advisory Committee, Office of Education staff members compiled a preliminary draft of the handbook. During the next year and a half and prior to its approval by the Advisory Committee, this draft and its major revisions were reviewed and analyzed by a group of technical consultants designated by the cooperating associations. These consultants were aided considerably by suggestions they received from 120 members of the associations who were immediately concerned with the handbook and who were given the opportunity of examining it critically.

What the Handbook Does

The handbook serves two important objectives: (1) It establishes standard terminology and a uniform classification of accounts to be used in recording and reporting school activity funds, and (2) it sets up an accounting system for such funds which can be adapted for use in any school in the Nation.

Standardization of terminology and accounts is essential to the collection of information about school activity financing. Terms and classifications of expenditures must have the same meaning throughout the country if useful and usable information is to be recorded, reported, and collected on a district, State, or nationwide basis. The absence of such standardization makes the collection of such information highly difficult, if not impossible.

A sound accounting system is essential to the judicious and safe management of school activity funds. The standard accounting system in the handbook outlines a procedure that insures the businesslike and safe custody of such funds and reduces the possibility of mismanagement, misuse, and fraud to a minimum. A school principal may adapt the handbook to meet his individual needs, account for all the funds in his school, and safeguard himself and the funds in his custody. He can budget and expend such funds efficiently according to accepted business principles and practices, using the accounting records as the basis for his reports to the school board and others concerned.

Standard Accounts

The handbook gives considerable attention to classification and definition of standard accounts which are necessary in recording and reporting receipts and expenditures for school activities. Two sets of accounts, *regular* and *clearing*, are provided for this purpose. All money that a school receives and expends for the operation of student activities is recorded under the regular accounts, while money that it collects for later transmission to the school board or any other agency or group outside the school is accounted for under clearing accounts. In this way a school can differentiate between money it uses for its activity program and money it handles merely as a collector for some other group.

Fund Accounting

The handbook organizes the regular and clearing accounts into funds and presents two systems of fund accounting: single fund and multiple fund. A school may account for its activity money, using a single fund or a number of funds, depending on its own particular needs and State and local regulations. The single-fund system provides for the accounting of all activities under one fund. The multiple-fund system establishes six fund categories and provides for the

accounting of certain activities separately. The six fund categories are: Student organization, athletics, merchandise, publications, instructional fees and rentals, and miscellaneous.

A school selects the accounts necessary to record all the transactions in a particular fund from the master list of standardized accounts in the handbook.

Accounting System

A part of the handbook which should prove valuable and useful is devoted to an accounting system utilizing the standard accounts. The system illustrated is a multiple-fund, single-entry system. However, the system is readily adaptable to either a single-fund arrangement or a double-entry bookkeeping system and may be kept on either a cash or accrual basis.

Samples of the various forms needed for receiving, expending, and accounting for all the moneys in the school activity fund are included in the text. Among the forms illustrated are: Official receipt, analysis of deposit, activity purchase order, check, fund balance record, receipts and expenditures register, expenditures distribution ledger, receipts distribution ledger, and monthly statement.

The illustrated system outlines procedures to be followed by all persons handling student activity money, including student treasurers, school treasurers, teachers, and principals. It carries a number of sample receipt and expenditure transactions through the accounting process step by step. The steps in the receiving procedure include issuing receipts, depositing money, and recording receipts in the appropriate fund-balance record, receipts and expenditures register, and receipts distribution ledger.

The steps in the expenditure procedure include submitting a purchase order, checking merchandise, processing purchase order for payment, issuing check, and recording the expenditure in the appropriate fund-balance record, receipts and expenditures register, and expenditures distribution ledger.

The receipts and expenditures thus obtained are then used as the basis for monthly financial statements and a monthly reconciliation of the bank account.

Another section in the handbook lists the specific accounts under which various receipts and expenditures transactions would be recorded. There is also a glossary of standardized terms used in school activity accounting.

Improved Activity Fund Accounting

The handbook, as it is printed, was approved by the National Advisory Committee. The Committee recommended "its use as the guide for financial accounting for school activities in every school throughout the Nation." Its members pledged the support of their organizations in the adoption and use of the handbook in schools throughout the country. Based on suggestions made by this group, plans for its implementation are currently underway, including assistance afforded under title X of the National Defense Education Act.

Widespread use of the standard accounts and accounting system will be another milestone in improving the administration of the schools.

National Advisory Committee on Financial Accounting for School Activity Funds

Shirley Cooper, Associate Secretary, American Association of School Administrators.

Robert W. Eaves, Executive Secretary, Department of Elementary School Principals, National Education Association.

Paul E. Elicker, Executive Secretary, National Association of Secondary-School Principals.

Charles W. Foster, Executive Secretary, Association of School Business Officials of the United States and Canada.

Edgar Fuller, Executive Secretary, Council of Chief State School Officers.

Sam M. Lambert, Director, Research Division, National Education Association.

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